

station 1 and the base station 2 use so-called closed loop transmission power control to control transmission power. More particularly, the mobile station 1 measures the SIR on the basis of the power of packet data transmitted from the base station 2 to the mobile station itself and the power (interference power) of, for example, packet data to the mobile station 1 relating to another user. Thereafter, the mobile station 1 compares this measured SIR with a reference value, and instructs the base station 2 to increase or decrease transmission power of the packet data to its own station. In this case, an increase width and a decrease width are predetermined constant values, respectively. On the other hand, the base station 2 increases or decreases the transmission power of the packet data to the mobile station 1 by the constant value in accordance with the instruction from the mobile station 1.

The base station 2 measures the SIR on the basis of the power of packet data transmitted from the mobile station 1 and the power (interference power) of, for example, packet data transmitted from the mobile station 1 relating to another user. Thereafter, the base station 2 compared this measured SIR with a reference value, and instructs the mobile station 1 to increase or decrease the transmission power of the packet data to its own station. In this case, an increase width and a decrease width are predetermined constant values,

respectively. On the other hand, the mobile station 1 increases or decreases the transmission power of the packet data by the constant value in accordance with the instruction from the base station 2.

Further, the mobile station 1 and the base station 2 use so-called DTX control, in addition to the closed loop transmission power control, to control the transmission power. More specifically, the mobile station 1 and the base station 2 prohibit a transmission operation until packet data to be transmitted is generated, and starts the transmission operation when the packet data is generated. Besides, the mobile station 1 and the base station 2 continue the transmission operation until the packet data to be transmitted disappears, and stop the transmission operation when the packet data disappears.

As described above, the transmission powers of the mobile station 1 and the base station 2 are controlled to secure transmission quality of a certain level or higher.

Figs. 2A to 2F are views for explaining multicode transmission of down packet data. The base station 2 assigns four down data channels IDCH to one call, so that high speed multicode transmission is realized. That is, the base station 2 divides packet data into frame units, and suitably assigns the respective data frames to the four down data channels IDCH, so that parallel transmission is executed.

More particularly, as shown in Figs. 2B to 2E, the base station 2 assigns four data channels using four spread codes C1, C2, C3 and C4, that is, a down first data channel IDCH1, a down second data channel IDCH2, a down third data channel IDCH3, and a down fourth data channel IDCH4 to the packet data relating to one call.

The structure of the data frame prepared in the base station 2 is as shown in Fig. 2F. That is, the data frame is composed of 16 slots. One slot includes a data symbol and control symbols including a pilot symbol for synchronization establishment, a TPC symbol used for closed loop transmission power control, and a TFCI symbol used for upper logical channel multiplexing.

In the state where there is no down packet data to be transmitted and transmission of down packet data is suspended, the base station 2 monitors whether or not the down packet data is generated. In the case where the down packet data is generated, the base station 2 uses the data transmission timing immediately after the generation of the data as a reference timing, and starts the transmission through the down first data channel IDCH1 in response to the reference timing. Like this, the base station 2 executes the so-called DTX control.

Specifically, as shown in Fig. 2B, after transmitting a predetermined number of dummy frames through the down first data channel IDCH1, the base station 2 transmits predetermined